#
14

Passed March 1825.

Inaugural Essay

on

Intermittent Fever

by

Silas H. Beans

of

Bucks County

Pennsylvania.

In
Thorn
gsma
distin
febril
C
this
observ
Wh
every
part
alway
serv
tidia
or eve
part
When
sever
after
the

Intermittent Fever is defined by Dr. Thomas to consist of a succession of paroxysms between each of which there is a distinct and perfect intermission from febrile symptoms or an apyrexial period.

Different names have been given to this fever according to the distance of time observed between the periods of its return.

When it comes on within the space of every twenty four hours and for the most part in the morning, Dr. Cullen says always in the morning, but this from observation is erroneous, it is called a quotidian. When it returns every other day or every forty eight hours for the most part at noon it is called a tertian. When similar paroxysms return every seventy two hours and mostly in the afternoon it is called a quartan. That under the tertian type is the most apt to prevail

in the
rm of
distinct
ent in

tan an
veral
e adde
Suppo
at the
mentio
quire
ases of
contract
were f
these
shape
on an
an hoc
mitter

in the Spring and is the most frequent form of the disease. The quartan is the most obstinate and dangerous being chiefly prevalent in Autumn.

Of the quotidian, tertian and quartan intermittents there are several varieties and forms, to which may be added several others of less frequency. Hippocrates tells of quintans, that return at the end of ninety six hours. Van Swieten mentions a case of a quartan turning to a quintan. Dr. Fordyce has seen two or three cases of septans. In all these the patients contrary to the generally received opinion were frequently attacked at night. These intermittents vary again in their shape. We see the anticipating coming on an hour or two sooner. The postponing an hour or two later. The anticipating intermittents show the disease to be more

violent than the postponing. The former if not soon checked will assume the remittent type. the latter yields very kindly to our remedies.

Some say that paroxysms do not come on at night but that they are prevented by sleep. This idea is erroneous as patients are sometimes awakened by the coming on of the rigors.

Quotidians, Tertians and Quartans vary in other respects having sometimes instead of one. two or three paroxysms on the same day. They are then called duplicated or triplicated. In the tertian and quartan there is still an intermission without fever. but in the quotidian this distinction is not to be seen. In the tertian it can most commonly be seen the best. When the paroxysms come on every day and the alternate paroxysms

are s

day

Wh

requi

med

Wh

requi

ate i

Sup

paro

one o

term

is a

ate a

The

ysm

inter

und

spec

is a

are similar or the one on the intermediate day is slight it is called a double tertian.

When there are two paroxysms on the regular days and one slight on the intermediate day it is called a triple tertian.

When there are two paroxysms on the regular days and none on the intermediate it is called a duplicated tertian.

Suppose in a quartan there is a severe paroxysm on the fixed days and a slight one on one of the intermediate days it is termed a double quartan and when there is a slight paroxysm on both intermediate days it is named duplicated quartan.

The triplicated quartans with three paroxysms every fourth day and none on the intermediate days. Quotidians, Tertians and Quartans are also either true or spurious. True when the paroxysm is completed within twelve hours.—

spuv
time.
unive
the u
a parc
of dis
diseas
Hepa
Exam
Pr
becom
is the
the g
the n
to the
St m
quotu
longes
ysm
longe

spurious when protracted beyond that time. Intermittents are also divided into universal and partial. Universal when the whole system partakes—partial when a part is affected. Some make a number of distinctions founded on symptoms or the disease with which they are blended as Hepatic—Colic—Epileptic—Rheumatic and Exanthematic Intermittents.

Intermittents have a tendency to become remittents: of which the quotidian is the most apt—the tertian next and the quartan the least. Quintans and the more protracted types never change to the remittent: according to Van Switen. It may likewise be remarked that the quotidian has the shortest cold but the longest hot fit and the whole paroxysm is the longest. The tertian has a longer cold but a shorter hot fit. and

the wo
of the
holde f
Duo
gsm p
conseq
contin
of So
holde s
most
the g
each
the ex
gures
the p
otherw
semic
is mu
ands
r a g

the whole paroxysm shorter than that of the quotidian. Quartan the longest cold fit but the shortest hot one.

Quotidian having the longest paroxysm produces most excitement and is consequently more apt to assume the continued or remittent form. Dr. Grant of London says that he has known the cold stage to last fifteen hours, but it most commonly lasts but two. In the quotidian the paroxysms follow each other in such quick succession and the excitement is so great that it requires prompt means on the part of the phycian to arrest its progress — otherwise he will have a continued or remittent fever to manage either of which is much more perplexing to the practioner and alarming to the patient. A tertian or a quartan first becomes a quotidian

before
as a
before
graduc
hot s
more
vocac
initia
spirit
and
by the
I m
are of
distre
to oth
ticula
large
honou
or oth

before it runs into the continued: This is a regular grade and a quotidian before it assumes the continued type gradually loses its cold stage; but the hot stage increases. and hence we see more excitement. and during the apy=rexial period the system becomes very irritable. When these fevers arise in the spring of the year. they are called vernal; and when in Autumn, they are known by the name of autumnal.

Intermittents often prove obstinate, and are of long duration so as to become very distressing to patients and often give rise to other chronic complaints—but more par=ticularly anasarcous swellings and en=largement of the liver or spleen.

It seems to be pretty generally ac=knowledged that marsh miasmata or the effluvia arising from stagnant

water
upon
caus

Dr. C
cause
differ
a fac
uncle
be w
it is
ly in
and
time

bream
leave

A
wat
iety.

water or marshy grounds when acted upon by heat is the most frequent cause of this fever.

It is asserted by Dr. Cullen to be very universally the cause of intermitting fevers in all their different forms. In admitting it to be a fact we are led at the same time to conclude that marsh miasma must be wafted to a considerable distance since it is found that persons residing constantly in the most healthy part of cities, and far remote from marshes are sometimes attached by them.

As respects the influence of the heavenly bodies on this disease. I shall leave for Dr. Lind to explain.

A watery poor diet great fatigue long watching intemperance grief much anxiety debility exposure to cold lying in

damp
a wa
the su
vacc
been
of in

fever
al fa
prev
the s

Pt
sution
recu
cum
fever

mod
not
stac

damp rooms or beds, wearing damp linen a warm, moist or cold damp atmosphere, the suppression of some long-accustomed evacuation, the recession of eruptions have been ranked among the exciting causes of intermittents.

One peculiarity in this fever is its great susceptibility of renewal from very slight causes, as from the prevalence of an easterly winds or from the repetition of the original exciting cause. It likewise appears to leave a predisposition in the body, which favours the recurrence of the complaint. In this circumstance intermittents differ from other fevers.

A certain knowledge of the proximate cause of intermittent fever has not yet been ascertained, but a deranged state of the stomach and primae viae

is that

Ca

fever

or fits.

poor

in m

ing a

comes

of eve

and

consi

to it.

colds,

respi

ious

bliv

pulse

ular

shor

is that which is most generally ascribed.

Each paroxysm of an intermittent fever is divided into three different stages or fits. The cold stage commences with languor a sense of debility and sluggishness in motion frequent yawning and stretching and an aversion to food. The face becomes pale the features shrink the bulk of every external part is diminished and the skin over the whole body appears constricted, as if cold had been applied to it. At length the patient feels very cold, and universal rigors come on: the respiration is small frequent and anxious; the urine is almost colourless; sensibility is greatly impaired; and the pulse is small frequent and often irregular.

These symptoms abating after a short time the second stage commences with

on inc
eudney
thirst,
tremet
temples
nation
freque
has be
the att
haps.
symp
a mou
and b
ck ben
lls oth
of the
depos
and
restore
is ho

an increase of heat over the whole body redness of the face, dryness of the skin, thirst, pain in the head, back, lower extremeties and stomach, throbbing in the temples, anxiety and restlessness; the respiration is fuller and more free, but still frequent; the tongue furred, and the pulse has become regular, hard, and full. If the attack has been very severe, then perhaps, delirium will arise. When these symptoms have continued for sometime, a moisture breaks out on the forehead, ~~and~~ and by degrees becomes a sweat, and this at length extends over the whole body. As this sweat continues to flow, the heat of the body abates, the thirst ceases the urine deposits a sediment, respiration is free and full, and most of the functions are restored to their ordinary state; the patient is however, left in a weak and wearied

condu

to the

mence

Th

durat

and

expec

are l

unex

doub

are g

foetid

chole

and

and

oxys

of an

mar

condition. This constitutes the third stage.

After a specific interval according to the species, a fresh paroxysm commences in the manner before described.

When the paroxysms are of short duration, regular in their recurrence, ~~and~~ and leave the intervals quite free, we may expect a speedy recovery; but when they are long, violent and attended with much anxiety and delirium the event may be doubtful. Other unfavourable symptoms are great prostration of strength, vertigo, foetid excretions, the presence of dysentery, cholera morbus, enlargement of the liver, and spleen, inducing dropsy or jaundice and convulsions occuring during the paroxysm preceded by coma.

Dissections of those who have died of an intermittent, show a morbid state of many of the viscera of the thorax and

abdom
conne
spilled
issue

on the
to co

fever
mater
a tin
varia

Th
unde
dura
dura
the
we
trea

abdomen. but the liver and organs concerned in formation of bile as likewise the spleen and mesentery, are those which are usually most affected.

Having finished the observations on the theoretical part of fever. I come now to consider the cure of intermittent.

In the treatment of intermittent fever a beaten path is before me. Fortunately for the profession our remedies under a timely administration are almost invariably competent to effect a cure.

This naturally presents itself to us under two heads. First. The treatment during the paroxysm. Secondly. The treatment during the interval or apyrexia. Following the indications pointed out by the disease, we sedulously imitate nature in our treatment and endeavour to excite

perspi
in the
many
tacke
This
tice by
of Lac
anesk
dose of
some
to two
medica
diffuse
whole
back a
very ve
quence
genera

the

perspiration when called to a patient in the cold stage of an intermittent. Many practioners are very much attached to opium in the cold stage. This was originally introduced into practice by Dr. Trotter who gave it in the form of Laudanum. Thirty drops would generally arrest the progress of the paroxysm. The dose of Dr. Trotter is often sufficient, but sometimes it is necessary to increase it to two or three times the quantity. The immediate effects are to quick the rigors and to diffuse a gentle warmth and moisture over the whole body and to relieve the pain in the head, back and extremeties. When the cold stage is very violent and menaceing dangerous consequences an emetic is an excellent remedy and generally affords relief during its operation.

During the hot stage the indications are to remove the

initial
induce
may
most
which
the p
water
ting
son
When
ceive
plen
be oth
these
from
from
allay
relax
spirit

initations which may keep it up. and to induce perspiration. The initation which may arise from bile in the stomach is most generally productive of vomiting which ought to be facilitated by directing the patient to drink plentifully of warm water and teas calculted to induce vomiting in a slight degree such as the infusion of the Eupatorium Perfoliatum &c. When this is not the case I do not conceive it a safe practice, especially in plethoric habits as apoplexy might be the consequence. In a majority of these cases great benefit will be derived from taking eight or ten ounces of blood from the arm. which seldom fails to allay the pain in the head and by relaxing the extreme vessels a gentle perspiration is brought on — And it not

unfreq
of some
safety

chapte
Europ
but in
nation
Eme
an ex
fever.
those
in the
indel
the f
with
to 3 fs.
solut
shad

unfrequently happens that by the loss of some blood puking is induced with safety.

I come now to the stage in which diaphoretics present themselves. The European writers employ James's Powders but in this country the antimonial preparations are used especially the Tartar Emetic. Aristolochia Serpentaria makes an exellent drink in this stage of the fever. Many Physicians especially those of warm climates employ opium in the hot stage. To Dr. Lind we are indebted for this practice. He gave it in the form of Laudanum combined with Aqua Menthae. thirty or forty drops to ℥ss. Aqua Menthae. He observes that a solution of the paroxysm takes place that the system is prepared for the

sub-seq
and p
viscer
practi
I have
has n
demo
can b
toms.
with
respir
head
with
purpo
not to
blister
The al
For th
be fo-

subsequent employment of the bark and also prevents congestion of the viscera with its consequences. That this practice will answer in ordinary cases I have no doubt, but sometimes the fever has more of an inflammatory type and demands other remedies. But this state can be determined by corresponding symptoms. There is a strong and full pulse with a flushed countenance laborious respiration local pain especially in the head and side. The Spiritus Mindereri with Laudanum answers a very good purpose in this stage. But the lancet is not to be spared and the application of a blister to the side ought not to be omitted. The alimentary canal should be freely opened. For this purpose the mercurial purges will be found to answer very well —

Milde
to be
or the

part
is p
This
be an
Th
of the
proc
first
mar
rem
to th
a ye
Thos.
so aff
stanc

Mild diaphoretics are at the same time to be employed as the Spiritus Mindereri or the antimonials—

I have now arived at the second part of the treatment or that which is proper in the interval or apyrexia. This during the apyrexia or interval may be arranged under two heads.

That to be employed during the time of the intermission and that on the approach of the paroxysm— To meet the first indication when it arises from marsh mismata, the patient is to be removed to some elevated situation or to the sea shore which generally produces a very salutary effect agreeably to Dr. Hosack. But as the majority of the persons so affected, are either so situated or so circumstanced that a removal would be unadvisable

we m
medo
I do n
cine
bark
of qu
linc
thre
of th
form
be ad
the
mic
opin
Syd
tion
the
the
taine

we must therefore have recourse to medicine alone. To meet this indication I do not know that there is any medicine to be compared to the Peruvian bark and its extracts (the sulphate of quinine). The cinchona oblongifolia lincifolia and cordifolia seem to be the three species now in greatest repute and of these the red is to be preferred. It was formerly supposed that the fever should be allowed to progress for sometime, before the bark was given, that the morbific matter might be expelled. This was the opinion of Boerhave, Van Swieten, and Sydenham. At the present time practioners are pretty generally agreed, that the erlier it is given the more speedily is the cure accomplished. Some have maintained that it is not necessary to attend to the

condition
impo
the bac
is it
tioners
vaccu
the in
and
any f
it is h
by vac
by Dma
foul a
system
table
not a
after
open
hour

condition of the alimentary canal or prepare the system for the reception of the bark. This however is not the case nor is it the common opinion among practioners but as a general rule we should evacuate the stomach by puking and the intestines by purging. The bark may and very often does succeed itself without any previous evacuations. but in general it is hazardous to proceed on this plan. By evacuating the alimentary canal both by Emetics and Purges, all irritation and foul accumulations are removed and the system rendered infinitely more susceptible to the operation of other medicine. It is not always necessary to give a cathartic after taking an emetic as it very frequently opens the bowels in the course of a few hours. When this is not the case a purge

should
come
Emer
measu
I woul
Calom
wants
in ing
it the
initia
aggra
The
until
recepl
Cinci
"Ob spec

Son
prani
cases

should be given and for the most part some saline cathatice answers very well. Emetics seems to be superseded in some measure by the use of purges. In this case I would prefer the old fashioned cathartic. Calomel and Jalap. Besides these evacuants venesection is always demanded in inflammatory cases and without it the bark is usually rejected by the irritable state of the stomach or if retained aggravates the disease.

The bark ought never to be administered until the system is thus prepared for its reception and in this manner the Cinchona would soon regain its name— "A specific for the intermittent"—

Sometimes intermittents are accompanied with visceral obstruction. In such cases the bark has been condmned by

Cullen
udgi
When
would
but w
with
chievo
to bl
when
vene
the
ly re
ct
whet
imm
Dr
Pr
for
pcar
Com

Cullen. I think the question may be easily adjusted by the following rules.
When there is no inflammatory action I would not hesitate to use the bark: but when there is much pain in the side with an active pulse, it is eminently mischievous. In this case we are directed to trust to blisters and a slight salivation and when there is much fever and pain venesection is often to be added to the salivation. This practice is highly recomended by professor Chapman.
At one time it was much disputed whether the bark should be given immediately before a paroxysm.
Dr. Cullen thought it should.
In this I think he was wrong for instead of preventing the paroxysm it increased the fever — Some have gone still farther among

whom
during
the
never
to be
a rule
that
cation
backs.
milk.
complete
or two
stom
taken
of som
In th
of giv
to hea
in th
not

whom is Dr. Clark who administered it during the whole of a paroxysm. This I have never seen tried but should judge it to be a dangerous practice. It is now a rule among the ablest practioners that whenever there is the slightest indication of a paroxysm to discontinue the bark. It is given in substance with milk, wine, extract of liquorice which last completely conceals its taste. The dose is one or two drachms repeated as often as the stomach will bear it until an ounce is taken during the interval with the addition of some aromatic as the serpentaria &c. In the West Indies they are in the habit of giving much larger doses, and it is said to have been successful when ineffectual in the usual manner. Some stomachs will not bear the bark in substance or the patients

will m
to give
some
ray
efficace
Whe
accenth
is un
in po
The d
hours
taken
the u
to an
ing i
inch
wood
medic
of us

will not take it. To obviate this it may be given in infusion or decoction with some aromatic. The serpentaria answers very well, by rendering the bark more efficacious and the taste more agreeable.

The sulphate of quinine has very recently become a popular remedy. It undoubtedly is equal if not superior in point of efficacy, to the Cinchona. The dose is about three grains every two hours until eight or ten grains be taken which if administered during the interval, will be found generally to arrest the progress of the fever. Believing it to be virtually the same as the cinchona, the same observation holds good as to the administration of the medicine. There are many other modes of using the bark viz Clyster Bath and

the
in it
very
The
and
anoth
not b
duck.
imp
The a
as th
Cupr
been
Mon
men
P. S
into
take
tinue
prep

the barkjacket each of which has in its turn proved beneficial though very much neglected in practice.

The wild Cherry, Black alder, Dogwood, and the Oak, all have at one time or another been highly extolled, and should not be lost sight of as they are the pro-duct of our own country and may be employed in cases of emergency.

The doses are pretty much the same as those of the Peruvian bark. The Cupri sulphas or blue vitriol has been very highly recommended by Dr. Mono. The following formula is recom-mended by the medical Journal—

℞ sulp Cupri IV. gr Cinchona ʒ ij formed into XVI pills four of which are to be taken during the day and to be con-tinued for a week or two. The different preparation of iron are of great benefit.

The s
by D
a fam
disea
mutte

The sulphate of alumine is highly esteemed by Dr. Cullen. Arsenic has been considered a famous remedy in many periodical diseases. but more particularly in inter-
-mittent fever.

Subs

Trust